

**Value-Added Assessment for English 1010 and 2010:  
Report of Results for the Information Literacy Component**

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## **I. Introduction**

In Fall 2004, the Utah State University English Department and USU Libraries conducted a “value-added” assessment of the English 1010 and English 2010 course series. At the beginning of the semester, all English 1010 students wrote a prompted essay. At the end of the semester, all English 2010 students wrote the same essay. A sample of these essays (n=376) were scored and compared. 190 essays were written by 1010 students and 186 by 2010 students. The results of the total writing scores are reported separately.

In addition to the essay scoring, USU Libraries conducted a citation analysis to assess whether there was a difference in the number and types of information sources cited in the English 1010 and English 2010 essays. We compiled an Excel spreadsheet, recording how many sources each student cited, either in a reference list or in footnotes. We also recorded standard citation information (author, title, date, etc.) for each source. We then classified these sources by type (web site, book, scholarly article, etc.). For the web sites, we also classified sub-types, such as news source, primary source, reference source (e.g. an online encyclopedia), etc. We also noted that several students cited the same web sites, so we recorded multiple citations and analyzed these as well.

All of the students took the Standardized Assessment of Information Literacy Skills (SAILS) test. SAILS is a research project based at Kent State University. The goal is to develop a standardized assessment of information literacy skills. USU participated in the final phase of the project. The English 1010 students took the test before receiving any library instruction and the 2010 students took the test at the end of the term, in order to see if there was a measurable difference in performance between these two groups.

## **II. SAILS Test Results**

A total of 1,243 USU students took the SAILS test (849 English 1010 students and 391 English 2010 students). The test consists of a random data bank of 252 fixed-response (e.g. multiple choice) questions. The test is designed to test skills related to the Association of College and Research Libraries Information Literacy Competency Standards for Higher Education. The test is designed to test only Standards 1, 2, 3, and 5, as Standard 4 relates to information use and cannot be measured by fixed responses. The questions are categorized to measure the following skill sets:

Skill Set 1: Developing a research strategy

Skill Set 2: Scholarly communication and the structure of the disciplines

Skill Set 3: Identifying and distinguishing among types of sources

Skill Set 4: Selecting finding tools

Skill Set 5: Selecting search terms

Skill Set 6: Constructing the search

Skill Set 7: Understanding information retrieval systems

Skill Set 8: Evaluating and revising search results

- Skill Set 9: Retrieving sources
- Skill Set 10: Evaluating and selecting sources
- Skill Set 11: Documenting sources
- Skill Set 12: Economic, legal, and social issues

The SAILS team analyzed the data using the Rasch dichotomous model, comparing the USU data to nearly 30,000 other test-takers from across the country. The analysis is designed to measure the average level of difficulty of each of the 252 test items and the average student performance. For the average student performance, the score represents the point at which the average student has a 50% probability of answering an item appearing at that difficulty level correctly. Test items that appear above the student performance average are more likely to be answered incorrectly by the average respondent and items below the average are more likely to be answered correctly by the average respondent.

In general, USU students, when compared to the national average, performed at the same level as all students nationally. The average performance score was well within the standard deviation of 0.15 for each Skill Set.<sup>1</sup> Furthermore, there was no statistically significant difference between English 1010 and 2010 students. In general, there was a slight increase in the average of 2010 students on some skill sets (.03-.04), but no differences fell outside of the standard deviation.

At USU, we conducted our own Rasch analysis, using the Winsteps program, and analyzed only USU students. Again, there is no statistically significant difference in performance between 1010 and 2010 students. See Figure 1.

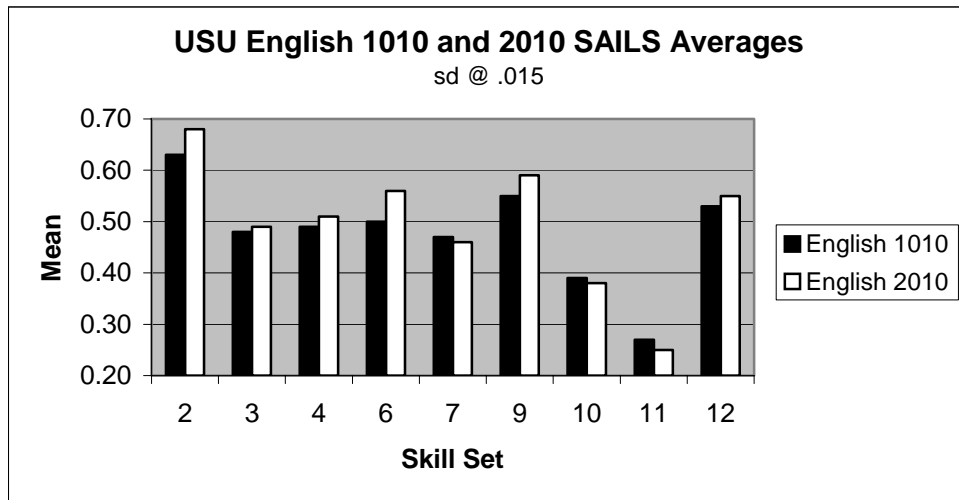


Figure 1

The results do suggest, however, that class standing might be an issue in performance on the SAILS test. Differences in scores for some skill sets do approach statistical significance when comparing freshmen and seniors, for example. For Skill Sets 2, 6, and 9, seniors scored higher than freshman, although still not within the range of significance (0.15). See Table 1.

<sup>1</sup> USU students did not complete enough items to produce valid results for Skill Sets 1 (Developing a research strategy), 5 (Selecting search terms), or 8 (Evaluating and revising search results).

Skill Set	Freshman Average	Senior Average
2: Scholarly communication and the structure of the disciplines	0.62	0.70
6: Constructing the search	0.51	0.60
9: Retrieving sources	0.55	0.64

**Table 1**

These results are amplified, in some cases, when comparing freshmen and seniors in 1010 and 2010. For Skill Set 2 on scholarly communication, freshmen in both 1010 and 2010 scored 0.62, while seniors in 2010 scored 0.71. This suggests that seniors do learn a bit more about the nature of the disciplines and scholarly communication somewhere in their course of study. The same score for freshmen in 1010 and 2010 might imply that students do not necessarily learn this in English 2010, but the number of freshmen in English 2010 is so small (2), that this is likely not significant. For most of the other skill sets, however, there is no consistent pattern of improvement between class standing and/or English 1010 and 2010.

The SAILS results are experimental and we are still awaiting further research into their validity and reliability. Among all the scores from more than 30,000 test-takers, there were, in fact, few score variations that were statistically significant. Most schools scored within one standard deviation of the average. This could mean that the test does not measure information literacy skills in a meaningful way. It could also suggest that test items were too easy and that most students in the country, including USU, enter with or achieve the most basic skills measured by the SAILS test fairly easily.

As far as specific Skill Sets are concerned, average scores were lower, meaning that students found items more difficult, for Skill Sets 7 (understanding information retrieval systems), 10 (evaluating and selecting sources) and 11 (documenting sources). This confirms research and anecdotal evidence from both English instructors and librarians that students struggle with these skills (Holliday).

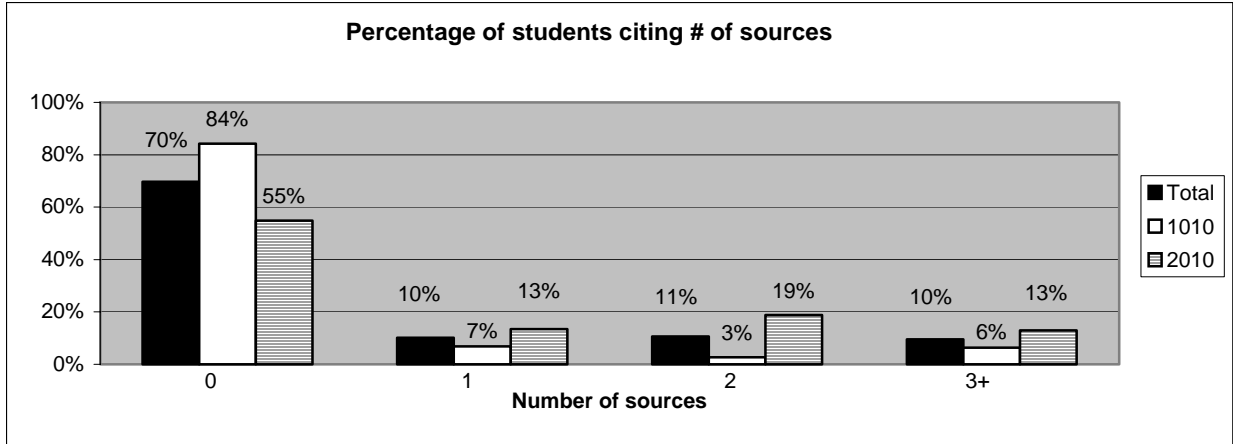
Despite their experimental nature, the SAILS results do suggest that much can be done to improve students' information literacy skills. Students often have a superficial understanding of the information world, but they fall back on more convenient research behaviors in actual practice. This is confirmed in the essay and citation analysis reported below.

### III. Citation Analysis

English 2010 students were more likely to cite sources. The mean number of sources cited rose from .35 to .65 between 1010 and 2010 (see Table 2). Very few 1010 students cited any sources (only 16%), while 2010 students were more likely to cite at least one source (45%). Even so, the vast majority of students (70%) failed to cite any outside sources of information (see Figure 2). This might reflect the fact that the essay instructions did not require research. Of those students who did cite sources in their essays, there is little difference between 1010 and 2010 students in the number of sources cited (see Figure 2).

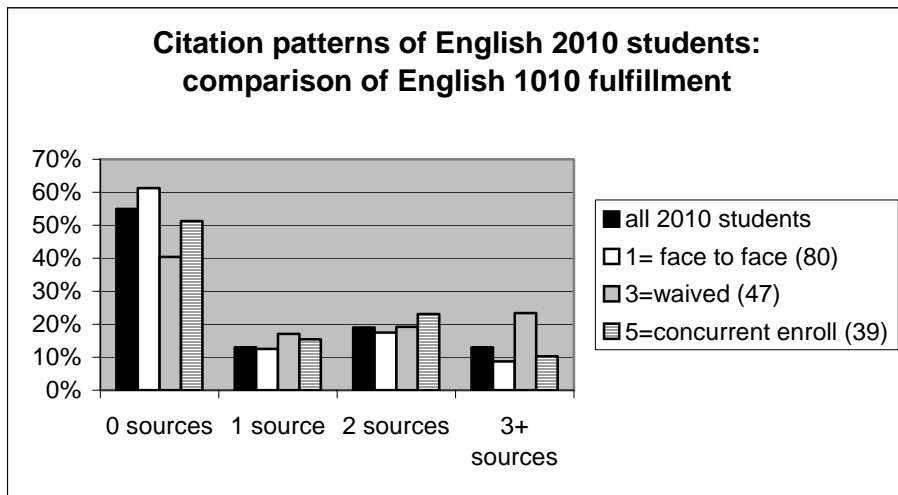
Mean # sources used (all)	0.65
Mean 1010 # sources used	0.35
Mean 2010 # sources used	0.95

**Table 2**



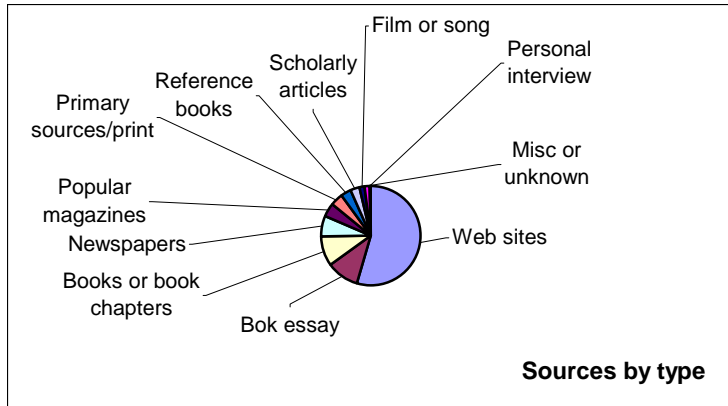
**Figure 2**

For English 2010 students, we also wanted to know if the manner in which students fulfilled their English 1010 requirement made any difference in the numbers of sources cited. We only looked at those students who had 1010 waived, those who took 1010 through concurrent enrollment, and those who took the class face-to-face at USU. These were the only groups with large enough numbers of students to make a comparison meaningful. Students who took English 1010 here at USU were slightly more likely to cite no sources than the entire 2010 sample (61% compared to the sample average of 55%). Students who took 1010 via concurrent enrollment were very close to the sample average (51% did not use any sources). Students who had 1010 waived were more likely to have cited at least one source (60%) than any other group, including all 2010 students combined. See Figure 3. The fact that the 2010 students who waived English 1010 performed better (in terms of numbers of citations) than any other group, suggests that citation patterns might reflect more general capabilities or motivations for achievement. Nevertheless, the fact that the students who took 1010 face-to-face at USU performed worse than any group suggests that changes in library instruction for English 1010 are in order.



**Figure 3**

Student essays included a total of 242 citations to outside sources. We placed each citation into a category by type. Web sites were, by far, the most common type, comprising 54.5% of the total citations (see Figure 4). The next most common type was the Derek Bok essay referred to in the essay prompt (10.3% of all citations). Students cited books or book chapters 9.9% of the time.



**Figure 4**

Assuming that most students found books, articles, and print reference sources in the library, we classified 76 of the total sources (31.4%) as coming from a library. Web sites were a slightly larger percentage of the 1010 citations (62.1% for 1010 and 51.7% for 2010), but the remaining categories were generally cited at the same frequency in the 1010 and 2010 samples. There is likely no statistical difference in the types of sources cited (see Table 3).

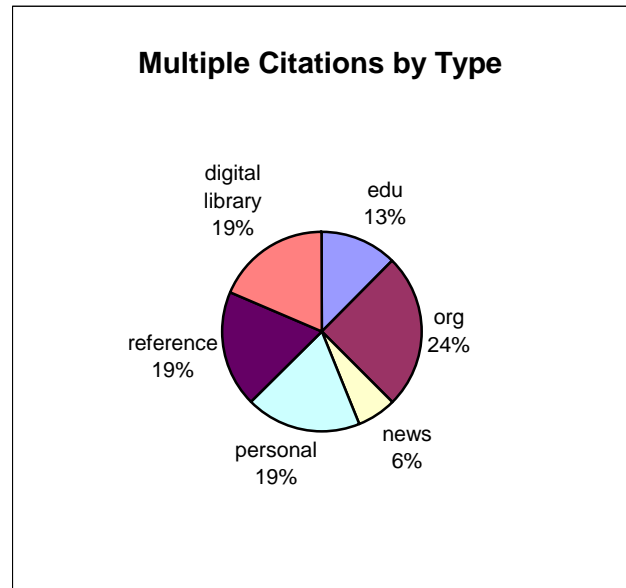
Types	All	1010	2010
Web sites	132 (54.5%)	41 (62.1%)	91 (51.7%)
Bok essay	25 (10.3%)	6 (9.1%)	19 (10.8%)
Books or book chapters	24 (9.9%)	4 (6.1%)	20 (11.4%)
Newspapers	16 (6.6%)	3 (4.5%)	13 (7.4%)
Popular magazines	11 (4.5%)	0	11 (6.3%)
Primary sources/print	10 (4.1%)	4 (6.1%)	6 (3.4%)
Reference books	8 (3.3%)	4 (6.1%)	4 (2.3%)
Scholarly articles	7 (2.9%)	1 (1.5%)	6 (3.4%)
Film or song	4 (1.7%)	0	4 (2.3%)
Misc or unknown	4 (1.7%)	3 (4.5%)	1 (0.6%)
Personal interview	1 (0.4%)	0	1 (0.6%)

**Table 3**

One of the most interesting findings was the fact that several students cited the same source. All of these multiple or repeated citations, with the exception of the Bok essay, were web sites. Nearly half of the web citations (65 of 132 or 49%) came from only 16 different web sites. In fact, 26.9% of all 242 sources cited came from these 16 web sites. We further analyzed these multiple web sources by type. We classified web sites by evaluating their purpose rather than only looking at the domain name, such as .org or .edu. Web site types are defined as follows:

- digital library: a digital library, such as the National Archives online, or a portal which provides information on a common topic, such as legal information.
- edu: an educational organization, such as a college or university, including a faculty member’s personal or course web page.
- org: an advocacy organization or group
- news: a newspaper or television news web site
- personal: web sites maintained by an individual
- reference: online encyclopedias, dictionaries, etc.

The web sites found in multiple citations are fairly evenly divided among these six types, with organizational web sites leading in popularity (24%). Nearly half (43%) of the multiple sites, however, come from organizations or individuals, suggesting that students are relying on web sites that might have narrow, even biased, perspectives. The fact that so many of these sites appeared again and again suggested that students were only citing the most convenient sources and doing little critical thinking about the quality of information or their information needs.



**Figure 5**

In order to investigate this hypothesis further, we used Google to recreate some of the most likely searches that would yield web sites on the essay topic, free expression on campus. We did several searches and looked to see if some of the repeated web sites were on the first page of results. Indeed, nine of the 16 repeated sites were in the top ten Google results. The most popular web site (cited 10 times) was the Legal Information Institute, a digital library of legal materials from Cornell University Law School ([www.law.cornell.edu](http://www.law.cornell.edu)). It was the first result for a search on “first amendment.” The second most popular source was firstamendmentcenter.org (9 citations). It was either the 2<sup>nd</sup> or 3<sup>rd</sup> result in Google searches for “speech codes,” “hate speech campus,” “freedom speech,” and “first amendment.” The complete results of these searches can be found in Table 4.

			Rank in Google for Common Search Terms						
Title	Root URL	Times cited	freedom expression	speech codes	hate speech campus	free speech	freedom speech	first amendment	protecting freedom expression derek bok
Miscellaneous documents and articles	<a href="http://www.law.cornell.edu">www.law.cornell.edu</a>	10						First Result	
Miscellaneous documents and articles	<a href="http://www.firstamendmentcenter.org">www.firstamendmentcenter.org</a>	9		3 <sup>rd</sup> result	2 <sup>nd</sup> result		2 <sup>nd</sup> result	2 <sup>nd</sup> result	
Miscellaneous documents and articles	<a href="http://www.aclu.org">www.aclu.org</a>	7			7 <sup>th</sup> result	4 <sup>th</sup> result	10 <sup>th</sup> result		
On Freedom of Expression and Campus Speech Codes	<a href="http://www.lib.udel.edu/ud/freedom/aaup.html">www.lib.udel.edu/ud/freedom/aaup.html</a>	6		First Result					
Freedom of expression	<a href="http://www.findlaw.com">www.findlaw.com</a>	4						8 <sup>th</sup> result	
Freedom of speech	<a href="http://www.derechos.org">www.derechos.org</a>	4					5 <sup>th</sup> result		
Free Speech or Free Malignancy	<a href="http://englishscholar.com/BSU/spring2002/analysis_zenabrown.htm">englishscholar.com/BSU/spring2002/analysis_zenabrown.htm</a>	3							3 <sup>rd</sup> result
Freedom of Expression	<a href="http://csulb.edu/~jvancamp/freedom1.html">csulb.edu/~jvancamp/freedom1.html</a>	3	3 <sup>rd</sup> result						
Bill of Rights	<a href="http://www.archives.gov">www.archives.gov</a>	2						7 <sup>th</sup> result	

**Table 4**

#### IV. Findings and Recommendations

The SAILS test results suggest that students might gain very little in-depth knowledge of information literacy skills during the English 1010/2010 sequence. It might also mean that the test itself measures information literacy skills only superficially. The essay analysis showed some improvement in student skills. At the beginning of English 1010, few students (only 16%) cited any outside sources of information for their essays. Students were three times more likely to cite a source at the conclusion of English 2010 (45%). This suggests that looking for supporting evidence in information became more of a habit during the course of study between English 1010 and 2010. Nevertheless, more than half of English 2010 students still did not cite an outside source in their essays, suggesting that most English 2010 students will not look for information sources as evidence for an essay of this type unless explicitly required to do so.

The quality of sources is also cause for some concern. While we did not score the quality of each individual source, the predominance of web sites suggests that students will go to the most familiar and convenient source of information. Some of the information that students found came from high quality web sites, such as the Legal Information Institute. Nevertheless, the frequency with which students cited the same web sites suggests that they are exploring a narrow slice of information, often looking at only the first few results in a Google search. Thus, while English 2010 students did show an improvement in their tendency to cite outside sources, it seems likely that they are still conducting research in a shallow and superficial way, skimming only the surface of the Web. Again, the nature of the essay and the lack of explicit instructions to “do research” might account for the preponderance of web sites over library resources. The lack of specific information requirements, however, might also suggest that this assessment essay captured students’ habits or natural inclinations fairly accurately.

The value-added assessment for information literacy in English 1010 and 2010 suggests much room for improvement. Even though students did show an improvement in using sources at the end of English 2010, the fact that students who waived English 1010 performed better than any group suggests that these results might simply reflect more general patterns of motivation and ability. Indeed, much of the research suggests that information literacy skills are developmental and are related to broader epistemological issues. Students generally become more reflective critical thinkers as they mature (Whitmire).

The USU Library Instruction Program and the English Department have already begun curriculum development efforts to address the gaps in students' information literacy. In English 1010, we have spent the last two years creating a standard curriculum that focuses on asking good research questions and introducing students to a rich variety of information sources beyond Google. Students need to understand what kinds of information sources are available before they can begin to search for, evaluate, and select the most useful and appropriate sources. In English 2010, we have begun teaching a problem-based activity which also focuses on broader critical thinking skills and the use of a wide range of information sources. It also addresses the different backgrounds of students entering 2010 (e.g. concurrent enrollment, waivers, transfers, etc.). The activity is designed so that higher performing students can practice and refine their skills, while students new to academic research can learn new skills.

Both the SAILS test results and the essay assessment suggest that students need improvement in evaluating information sources. The assessment measured the effectiveness of our former approach to teaching web evaluation: providing students with a checklist of criteria to apply to web resources (e.g. accuracy, authority, currency, etc.). This approach clearly does not work in teaching and motivating students to use the most credible and appropriate resources for their purpose. The new 1010 and 2010 curricula focus on evaluation in practice and in the context of problem-solving. We hope that this will lead to a deeper understanding of evaluation, rather than the superficial checklist approach.

The modifications in both the English 1010 and 2010 curricula will be assessed during the 2005-2006 school year. The English Department is conducting another essay assessment, and we will conduct a similar citation analysis. The Library Instruction Program is also coordinating an intensive assessment of the new English 1010 curriculum, including surveys, focus groups, and assessments of student work. These assessments will help us better determine what changes we still need to make to improve students' information literacy skills.

While we will continue to monitor and assess the library curriculum for both classes, the Library Instruction Program makes the following recommendations based on this current assessment.

- **Plan for sustainability:** The results of this assessment are based upon a library instruction model in which librarians met with students only once or twice during a semester. The current curriculum was designed collaboratively, with the assumption that librarians are teaching partners in an intensive research experience. It requires that librarians meet with 1010 students at least 4 times and 2010 students at least twice. This is a significant use of library resources (e.g. the time of individual librarians). If the pilot program proves successful in improving students' acquisition of information literacy skills, the Library, the English Department, and the Provost's office should meet to determine how to make the program sustainable. Currently

- only 10 librarians serve more than 150 English classes every year, in addition to other duties as reference librarians.
- More coordination with English 2010: Currently, the library instruction program benefits from a great deal of coordination with the English 1010 program. Graduate instructors teach from a fairly standard curriculum. English 2010 instructors do not. Some are using the new problem-based approach, while others continue to ask for library instruction along the model (one or two search sessions) that this assessment suggests is ineffective. USU Libraries and the English Department need to continue to build on their strong relationship and further refine and improve information literacy instruction in English 2010. The Library needs to better communicate what does and does not work in terms of teaching information literacy and we need to assess student learning in English 2010 more specifically.

## References

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